

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Appellants: H. ANDO et al. Confirmation No. 8770
Serial No.: 10/608,335
Filed: June 30, 2003
For: LEARNING CONDITION JUDGING PROGRAM AND USER
CONDITION JUDGING SYTEM
Group: 3713
Examiner: K. Frisby

APPEAL BRIEF

MS Appeal Briefs - Patents

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

June 8, 2009

Sir:

This Appeal Brief is being filed in response to the decision by the Examiner in the Final Office Action dated February 2, 2009 in which claims 1, 3, 7 and 9-17 were finally rejected. In accordance with 37 CFR §41.37, Appellants provide the following.

I. REAL PARTY IN INTEREST

The Real Party in Interest in this Appeal is Hitachi, Ltd., as evidenced by the Assignment filed on June 30, 2003 in Application Serial No. 10/608,335, filed June 30, 2003, said application being the subject of this Appeal, and recorded on Reel 014247 and Frame 0017.

II. RELATED APPEALS AND INTERFERENCE

There are no other Appeals or Interferences that may directly affect, may be directly affected by, or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 1, 3, 7 and 9-17 are currently pending.

Claims 1, 3, 7 and 9-17 are being appealed.

Claims 1, 3, 7, 9-14, 16 and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,585,521 to Obrador, in view of U.S. Patent No. 6,402,520 to Freer, further in view of U.S. Patent No. 5,944,530 to Ho et al. ("Ho"), and even further in view of Japanese Publication No. 09-149894: *English Computer Translation from the Patent Abstracts of Japan* to Atsushi, and yet even further in view of U.S. Patent No. 6,315,569 to Zaltman.

Claim 15 is rejected 35 U.S.C. §103(a) as being unpatentable over Obrador in view of Freer, further in view of Ho, even further in view of Atsushi, yet even further in view of Zaltman and further in view of Shpiro, U.S. Publication No. 2002/0150869 ("Shpiro").

IV. STATUS OF AMENDMENTS

All previously filed amendments have been entered. No amendments have been filed subsequent to the final rejection.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention as recited in the claims is directed to a learning condition program embodied on a computer readable medium and a system as recited, for example, in independent claims 1, 3 and 13.

A. Independent Claim 1

As recited in independent claim 1, the present invention provides a learning condition judging program embodied on a computer readable medium, where the program is executable in an information processing apparatus. (See, e.g., Fig. 1; Fig. 2, item 1012; and page 8, line 15 to page 10, line 24).

The program is operable on the information processing apparatus to perform a step of starting a learning program in the information processing apparatus. According to the present invention, and as shown in Fig. 1, the information processing apparatus is connected through an information acquiring means to a near infrared measuring device, and is connected to a recording means, an input means and a display means. (See, e.g., page 9, line 23 to page 10, line 24; and Fig. 1, items 10301, 10303, 10305, 10306, and 10307).

The program is further operable on the information processing apparatus to perform a step of displaying learning contents within a

predetermined window on the display means. (See, e.g., Fig. 5; and page 12, line 12 to page 13, line 2).

Furthermore, the program is operable on the information processing apparatus to perform a step of continuously acquiring, as the learning program progresses, measurement information of a blood flow rate in a brain of a user of the information processing apparatus, the measurement information being obtained from the near infrared measuring device through the information acquiring means. (See, e.g., page 13, line 3 to page 17, line 12).

Further, the program is operable on the information processing apparatus to perform a step of acquiring input information and operation information given by the user to the information processing apparatus through the input means, where the input information and the operation information indicate progress of the learning program. (See, e.g., page 13, line 3 to page 17, line 12).

Even further, the program is operable on the information processing apparatus to perform a step of acquiring audio or video information of the user of the information processing apparatus so as to obtain attention information of the user through at least one of a microphone and a camera connected to the information processing apparatus. (See, e.g., page 13, line 3 to page 17, line 12).

Yet even further, the program is operable on the information processing apparatus to perform a step of analyzing a rate of change in hemoglobin concentration from the blood flow rate. (See, e.g., page 17, line 13 to page 21, line 2).

Still even further, the program is operable on the information processing apparatus to perform a step of judging, when an event occurs within the predetermined window, when a facial image of the user is recognized, or when the audio information includes predetermined audio information, whether or not a degree of concentration of the user to the learning program is higher than a predetermined degree by using the measurement information of the blood flow rate and the attention information to determine that the user is in concentration time. (*See, e.g.*, page 17, line 13 to page 21, line 2).

Furthermore, the program is operable on the information processing apparatus to perform a step of recording, when the degree of concentration of the user to the learning program is higher than the predetermined degree, the degree of concentration of the user and the attention information of the user with the progress of the learning program in the recording means. (*See, e.g.*, page 17, line 13 to page 21, line 2).

Further, the program is operable on the information processing apparatus to perform a step of displaying, when the degree of concentration of the user to the learning program is not higher than the predetermined degree, information that the user is not in concentration time. (*See, e.g.*, Fig. 9; and page 21, lines 3 to 23).

B. Independent Claim 3

As recited in independent claim 3, the present invention provides a learning condition judging program embodied on a computer readable

medium, where the program is executable on a computer. (See, e.g., Fig. 1; Fig. 2, item 1012; and page 8, line 15 to page 10, line 24).

According to the present invention, the program is operable on the computer to perform a step of acquiring concurrently, through input means, information of contents executed in a connected terminal, information of a blood flow rate in a brain of a user of the terminal, and operation information and input information given by the user to the terminal. (See, e.g., page 13, line 3 to page 17, line 12).

The program is further operable on the information processing apparatus to perform a step of analyzing a rate of change in hemoglobin concentration from the blood flow rate. (See, e.g., page 17, line 13 to page 21, line 2).

Furthermore, the program is operable on the information processing apparatus to perform a step of acquiring audio or video information of the user of the information processing apparatus so as to obtain attention information of the user through at least one of a microphone and a camera connected to the terminal. (See, e.g., page 13, line 3 to page 17, line 12).

Further, the program is operable on the information processing apparatus to perform a step of judging whether or not a degree of concentration of the user to the information of contents is higher than a predetermined degree by using the analyzed rate of change in hemoglobin concentration at a corresponding time and the attention information. (See, e.g., page 17, line 13 to page 21, line 2).

Even further, the program is operable on the information processing apparatus to perform a step of displaying, when the degree of concentration

of the user to the information of contents is higher than the predetermined degree, the degree of concentration of the user and the attention information of the user with corresponding time of the information of contents. (See, e.g., Fig. 9; and page 21, lines 3 to 23).

Yet even further, the program is operable on the information processing apparatus to perform a step of displaying, when the degree of concentration of the user to the information of contents is not higher than the predetermined degree, information that the user is not in concentration time. (See, e.g., Fig. 9; and page 21, lines 3 to 23).

C. Independent Claim 13

As recited in independent claim 13, the present invention provides a system. As shown in Fig. 1, the system includes: a near infrared measuring device; a terminal connected to the near infrared measuring device for measuring a blood flow rate in a brain of a user of the terminal; and a server connected to the terminal through a network. (See, e.g., Fig. 1; and page 8, line 15 to page 10, line 24).

According to the present invention, the server includes a recording means for recording contents information. Also according to the present invention, the terminal includes: means for starting a learning program, displaying learning contents within a predetermined window on the display means, and continuously acquiring measurement information from the near infrared measuring device; a display for displaying the contents information received from the server; input means for accepting input instructions and operation instructions for the displayed contents information, where the input

instructions and operation instructions indicate progress of a user's learning of the contents information; and means for acquiring audio or video information of the user so as to obtain user's attention information. (See, e.g., Fig. 1; Fig. 2; and page 8, line 15 to page 10, line 24).

Also according to the present invention, the server further includes a storage for storing inputs from the input means, the measurement information from the near infrared measuring device, the acquired audio or video information as attention information of the user, and the displayed contents information at corresponding times in association with one another. (See, e.g., Fig. 2, item 1012; and page 9, line 24 to page 10, line 24).

The server also includes means for analyzing a rate of change in hemoglobin concentration from the blood flow rate and judging, when an event occurs within the predetermined window, when a facial image of the user is recognized, or when the audio information includes predetermined audio information, whether or not a degree of concentration of the user to the contents information is higher than a predetermined degree, based on the measurement information from the near infrared measuring device and the attention information to determine that the user is in concentration time. (See, e.g., page 17, line 13 to page 21, line 2).

The server further includes means for displaying to the display, when the degree of concentration of the user to the contents information is higher than the predetermined degree, the degree of concentration of the user and the attention information of the user with corresponding time of the contents, and means for displaying to the display, when the degree of concentration of the user to the contents information is not higher than the predetermined

degree, information that the user is not in concentration time. (See, e.g., page 17, line 13 to page 21, line 23; and Fig. 9).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether claims Claims 1, 3, 7, 9-14, 16 and 17 are obvious over Obrador, Freer, Ho, Atsushi, and Zaltman under 35 USC §103(a).

B. Whether claim 15 is obvious over Obrador, Freer, Ho, Atsushi, Zaltman and Shpiro under 35 USC §103(a).

VII. ARGUMENT

A. 35 USC §103(a) rejection of claims 1, 3, 7, 9-14, 16 and 17

The above described features of the present invention, as clearly recited in the claims, are not taught or suggested by any of the references of record. Specifically, the features are not taught or suggested by either of Obrador, Freer, Ho, Atsushi or Zaltman, whether taken individually or in combination with each other.

i. The Combination of Obrador, Freer, Ho, Atsushi, and Zaltman Fails to Teach or Suggest All the Features of the Claimed Invention

For example, the combination of Obrador, Freer, Ho, Atsushi and Zaltman fails to teach or suggest "judging, when an event occurs within the predetermined window, when a facial image of the user is recognized, or when said audio information includes predetermined audio information, whether or not a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine

that the user is in concentration time" as recited in independent claims 1 and 13.

The Examiner relies upon Obrador for teaching judging, when an event occurs within the predetermined window, when a facial image of the user is recognized, or when the audio information includes predetermined audio information, but concedes that Obrador does not teach judging whether or not a degree of concentration of the user to the learning program is higher than a predetermined degree by using the measurement information of the blood flow rate and the attention information to determine that the user is in concentration time (see page 3, lines 6-8; and page 6, lines 14-18 of the Office Action).

However, the Examiner asserts that Zaltman teaches judging whether or not a degree of concentration of the user to the learning program is higher than a predetermined degree by using the measurement information of the blood flow rate and the attention information to determine that the user is in concentration time, citing column 11, lines 41-58. However, neither the cited text, nor any other portion of Zaltman, teaches the claimed feature.

As described in the cited text, Zaltman merely describes where an increase in the processing within a brain region results in a proportional increase in the concentration of oxygen and other blood-born metabolites accessible to that brain region. Thus, measuring the concentration of blood flow to the brain while an individual performs an isolated cognitive task provides a means of measuring the relative processing contribution of each subregion to the task. This is not the same as the present invention.

Contrary to the Examiner's assertions, there is no teaching or suggestion in Zaltman of where a determination is made as to whether or not a degree of concentration of the user to the learning program is higher than a predetermined degree by using the measurement information of the blood flow rate and the attention information to determine that the user is in concentration time, when an event occurs within the predetermined window, when a facial image of the user is recognized, or when the audio information includes predetermined audio information, as in the present invention. Accordingly, Zaltman is quite different from the present invention.

By way of further example, the combination of Obrador, Freer, Ho, Atsushi and Zaltman fails to teach or suggest "recording, when said degree of concentration of said user to said learning program is higher than said predetermined degree, said degree of concentration of the user and said attention information of the user with said progress of said learning program in said recording means" as recited in independent claims 1 and 13.

The Examiner relies upon Freer for teaching recording, when the degree of concentration of the user to the learning program is higher than the predetermined degree, and relies upon Ho for teaching recording the degree of concentration of the user and the attention information of the user with the progress of the learning program in the recording means (see page 4, lines 4-9; and page 5, lines 4-9 of the Office Action).

With regard to Freer, the Examiner cites column 13, lines 1-8 to support the assertion that Freer teaches recording, when the degree of concentration of the user to the learning program is higher than the

predetermined degree. However, neither the cited text, nor any other portion of Freer, teaches or suggests the claimed feature.

As described in the cited text, Freer merely discloses where an apparatus includes a recording device in the form of computer memory and storage devices. For each of the educational exercises, the computer measures and saves to the recording device the performance data of individual users including score, duration of play, and average focus and cognitive processing levels, and the computer accumulates and saves to the recording device the cumulative time on-task of individual users. Unlike the present invention, Freer does not teach or suggest recording data when the degree of concentration of the user to the learning program is higher than the predetermined degree. To the contrary, Freer appears to automatically record data without any conditions for recording. This is not the same as the present invention.

By way of even further example, the combination of Obrador, Freer, Ho, Atsushi and Zaltman fails to teach or suggest "displaying, when said degree of concentration of said user to said learning program is not higher than said predetermined degree, information that the user is not in concentration time" as recited in independent claims 1 and 13.

The Examiner relies upon Freer for teaching this feature, citing column 16, lines 28-32. However, neither the cited text, nor any other portion of Freer teaches or suggests the claimed feature.

As described in the cited text, Freer teaches a procedure where a matcher demands that a user maintain focus to begin play and sustain focus to continue play. As further described in column 16, lines 32-40, a detected

loss of focus causes the screen to display "Focus to continue," while the words "Focus to continue" can be heard through the computer's sound card and speakers. In the beginner level of the matcher procedure, the user hears two distinct tones emanating from the computer's speaker. If the tones match, the user depresses the space bar. No response is required for a non-match. As described in column 16, lines 25-27, Freer teaches where the goal of this procedure is for the user to maintain optimum attention while processing at least incoming auditory data and inputting responses to the computer. Contrary to the Examiner's assertions, there is no teaching or suggestion in Freer of where "Focus to continue" is displayed when the degree of concentration of the user to the learning program is not higher than a predetermined degree. Therefore, Freer is not the same as the present invention.

ii. The Atsushi Reference Teaches Away From the Claims

Another feature of the present invention, as recited in claim 1, and as similarly recited in claim 3, includes "acquiring audio or video information of said user of said information processing apparatus so as to obtain attention information of said user through at least one of a microphone and a camera connected to said information processing apparatus". In view of this feature, Appellants submit that Atsushi teaches away from the invention as claimed.

Atsushi does not disclose this feature, and the Examiner does not rely upon Atsushi for teaching this feature. Although the Examiner does not rely upon Atsushi for teaching this feature, Appellants submit that it would not be obvious to modify any of the cited references with Atsushi, so as to obtain this

feature, because Atsushi teaches away from using conventional input means, such as a microphone or camera connected to a terminal.

A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). By failing to recognize the portions of Atsushi that teach away from the present invention, the Examiner is improperly combining the Atsushi reference with Obrador, Freer, Ho and Zaltman.

As described in paragraph [0001], Atsushi is directed to the control of a device without the use of an input means, such as a keyboard or a mouse. An object of Atsushi is to control a device by using measured localized brain functions of a user, rather than using conventional input means. Therefore, Atsushi teaches away from using conventional input means, but rather uses electrodes attached to the head of a user (see, e.g., Drawings 1, 6 and 10). Accordingly, as conceded by the Examiner, Atsushi does not disclose acquiring audio or video information through at least one of a microphone and a camera connected to the information processing apparatus, as claimed. Applicants submit that because Atsushi teaches away from using conventional input means, one of ordinary skill in the art, who has considered Atsushi as a whole, would not be motivated to combine the features of Atsushi with the cited references to obtain the present invention.

Furthermore, audio and video information is acquired by use of conventional input means. The Examiner relies upon Ho, for instance, to teach the use of a digital camera as an input means. The fact that the Atsushi

uses electrodes as input means, coupled with the expressly described object of Atsushi, which is to control a device by using measured localized brain functions of a user, rather than by using conventional input means (see paragraph [0001]), fully supports the assertion that Atsushi teaches away from the present invention. More specifically, one of ordinary skill in the art would not be motivated to combine the use of conventional input means with the teachings of Atsushi because Atsushi clearly teaches that conventional input means, such as the digital camera of Ho, are not to be used to acquire input and operation information.

The purpose of Atsushi is to provide a means of obtaining information through a non-conventional manner (i.e., via electrodes), and to modify the cited references with the features of Atsushi, in the manner asserted by the Examiner, to obtain information through conventional means, would be entirely against the teachings of Atsushi as a whole. Therefore, there is no motivation to modify the cited references with Atsushi in the manner suggested by the Examiner.

iii. The Examiner's Conclusion of Obviousness is Based on Improper Hindsight Reasoning

The Examiner alleges that the combined teachings of Obrador, Freer, Ho, Atsushi and Zaltman teach the features of the present invention, and concludes that it would have been obvious of one of ordinary skill in the art to combine Obrador, Freer, Ho, Atsushi and Zaltman. Appellants do not agree. More specifically, Appellants submit that the Examiner has arbitrarily combined the cited references, while relying upon improper hindsight reasoning.

The U.S. Court of Appeals for the Federal Circuit, in *In re Denis*

Rouffet, 47 U.S.P.Q.2d 1453; 149 F.3d 1350, held as follows:

As this court has stated, "virtually all [inventions] are combinations of old elements." *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698, 218 U.S.P.Q. 865, 870 (Fed.Cir.1983); see also *Richdel, Inc. v. Sunspool Corp.*, 714 F.2d 1573, 1579-80, 219 U.S.P.Q. 8, 12 (Fed.Cir.1983) ("Most, if not all, inventions are combinations and mostly of old elements."). Therefore an examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be "an illogical and inappropriate process by which to determine patentability." *Sensorics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1570, 38 U.S.P.Q.2d 1551, 1554 (Fed.Cir.1996).

To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.

Appellants submit that contrary to the findings of the U.S. Court of Appeals for the Federal Circuit, the Examiner of the present application has not shown sufficient motivation to combine each of the cited references. More specifically, Appellants submit that the Examiner has not shown sufficient reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.

a. The Examiner Has Not Provided Sufficient Motivation for Combining Freer with Obrador

To support the assertion that a skilled artisan would be motivated to combine the teachings of Obrador and Freer, the Examiner asserts "It would have been obvious to one of ordinary skill in the art at the time the invention was made to include *starting a learning program* and *displaying the learning contents*, as disclosed by Freer, incorporated into Obrador in order to increase the user's focus" (emphasis added) (*see, e.g.*, page 4 of the Office Action).

However, in addition to "starting a learning program" and "displaying the learning contents", the Examiner relies upon Freer for teaching "recording, when said degree of concentration of said user to said learning program is higher than said predetermined degree" and "displaying, when said degree of concentration of said user to said learning program is not higher than said predetermined degree, information that the user is not in concentration time". The Examiner has not provided any motivation for either "recording, when said degree of concentration of said user to said learning program is higher than said predetermined degree" or "displaying, when said degree of concentration of said user to said learning program is not higher than said predetermined degree, information that the user is not in concentration time".

In absence of motivation to combine each of the features relied upon in both Obrador and Freer, it appears that the Examiner has selected these references with the assistance of hindsight, thereby improperly including knowledge gleaned only from the disclosure of the present invention. (*See, e.g., In re McLaughlin* 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971) (holding that reconstruction based on hindsight reasoning is improper

when it includes knowledge gleaned only from applicant's disclosure).

Therefore, the Examiner's rejection lacks sufficient motivation for combining Obrador and Freer, and the Examiner has failed to show a proper *prima facie* case of obviousness.

b. The Examiner Has Not Provided Sufficient Motivation for Combining Ho with Obrador and Freer

To support the assertion that a skilled artisan would be motivated to combine the teachings of Obrador, Freer and Ho, the Examiner asserts "It would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein the input information and the operation information indicate progress of said learning program" (*see, e.g.*, page 5 of the Office Action).

However, in addition to the feature of "wherein the input information and the operation information indicate progress of said learning program", the Examiner also relies upon Ho for teaching "recording said degree of concentration of the user and said attention information of the user with said progress of said learning program in said recording means."

In absence of motivation to combine each of the features relied upon in each of Obrador, Freer and Ho, it appears that the Examiner has selected these references with the assistance of hindsight, thereby improperly including knowledge gleaned only from the disclosure of the present invention. (*See, e.g., In re McLaughlin* 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971) (holding that reconstruction based on hindsight reasoning is improper when it includes knowledge gleaned only from applicant's disclosure). Therefore, the Examiner's rejection lacks sufficient motivation for

combining Obrador, Freer and Ho, and the Examiner has failed to show a proper *prima facie* case of obviousness.

c. The Examiner Has Not Provided Sufficient Motivation for Combining Atsushi with Obrador, Freer and Ho

To support the assertion that a skilled artisan would be motivated to combine the teachings of Obrador, Freer, Ho and Atsushi, the Examiner asserts "It would have been obvious to one of ordinary skill in the art at the time the invention was made to include continuously acquiring, measurement information of blood flow rate in a brain of a user, as disclosed in Atsushi, incorporated into Obrador/Freer/HO et al. in order to measure localized brain functions" (*see, e.g.*, page 6 of the Office Action).

However, as previously discussed, the Atsushi references teaches away from the claims. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). The purpose of Atsushi is to provide a means of obtaining information through a non-conventional manner (i.e., via electrodes), and to modify the cited references with the features of Atsushi, in the manner asserted by the Examiner, to obtain information through conventional means, would be entirely against the teachings of Atsushi as a whole.

By failing to recognize the portions of Atsushi that teach away from the present invention, the Examiner is improperly combining the Atsushi reference with Obrador, Freer, Ho and Zaltman. Therefore, there is no motivation to modify the cited references with Atsushi in the manner suggested by the Examiner.

d. The Examiner Has Not Provided Sufficient Motivation for Combining Zaltman with Obrador, Freer, Ho and Atsushi

To support the assertion that a skilled artisan would be motivated to combine the teachings of Obrador, Freer, Ho, Atsushi and Zaltman the Examiner asserts "It would have been obvious to one of ordinary skill in the art at the time the invention was made to include judging when an event occurs within the predetermined window, as disclosed by Zaltman, incorporated into Obrador/Freer/Ho et al./Atsushi in order to provide[] a means for measuring the relative processing contribution of each subregion to the task" (*see, e.g.,* page 6 of the Office Action).

However, the Examiner does not rely upon Zaltman for teaching "judging when an event occurs within the predetermined window". As indicated on page 3 of the Office Action, the Examiner relies upon Obrador for teaching this feature. The feature upon which the Examiner relies on Zaltman for teaching is "judging, whether or not a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time", and the Examiner has not provided any motivation for teaching this feature (*see, e.g.,* page 6 of Office Action).

In absence of motivation to combine each of the features relied upon in each of Obrador, Freer, Ho, Atsushi and Zaltman, it appears that the Examiner has selected these references with the assistance of hindsight, thereby improperly including knowledge gleaned only from the disclosure of the present invention. (*See, e.g., In re McLaughlin* 443 F.2d 1392, 1395, 170

USPQ 209, 212 (CCPA 1971) (holding that reconstruction based on hindsight reasoning is improper when it includes knowledge gleaned only from applicant's disclosure). Therefore, the Examiner's rejection lacks sufficient motivation for combining Obrador, Freer, Ho, Atsushi and Zaltman, and the Examiner has failed to show a proper *prima facie* case of obviousness.

B. 35 USC §103(a) rejection of claim 15

Claim 15 is dependent on independent claim 1. Therefore, Applicants submit that claim 15 is allowable for at least the same reasons previously discussed regarding independent claim 1.

To the extent necessary, Appellants petition for an extension of time under 37 CFR §1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-4888 (Case No. 500.42880X00) and please credit any excess fees to such Deposit Account.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

1. A learning condition judging program embodied on a computer readable medium, the program executable in an information processing apparatus, wherein the program is operable on the information processing apparatus to perform the steps of:

starting a learning program in said information processing apparatus, wherein the information processing apparatus is connected through an information acquiring means to a near infrared measuring device, and is connected to a recording means, an input means and a display means;

displaying learning contents within a predetermined window on said display means;

continuously acquiring, as said learning program progresses, measurement information of a blood flow rate in a brain of a user of said information processing apparatus, said measurement information being obtained from said near infrared measuring device through said information acquiring means;

acquiring input information and operation information given by said user to said information processing apparatus through said input means, wherein the input information and the operation information indicate progress of said learning program;

acquiring audio or video information of said user of said information processing apparatus so as to obtain attention information of said user through at least one of a microphone and a camera connected to said information processing apparatus;

analyzing a rate of change in hemoglobin concentration from said blood flow rate;

judging, when an event occurs within the predetermined window, when a facial image of the user is recognized, or when said audio information includes predetermined audio information, whether or not a degree of concentration of said user to said learning program is higher than a predetermined degree by using said measurement information of said blood flow rate and said attention information to determine that the user is in concentration time;

recording, when said degree of concentration of said user to said learning program is higher than said predetermined degree, said degree of concentration of the user and said attention information of the user with said progress of said learning program in said recording means; and

displaying, when said degree of concentration of said user to said learning program is not higher than said predetermined degree, information that the user is not in concentration time.

2. (canceled).

3. A learning condition judging program embodied on a computer readable medium, the program executable on a computer, and the program operable on the computer to perform the steps of:

acquiring concurrently, through input means, information of contents executed in a connected terminal, information of a blood flow rate in a brain of

a user of said terminal, and operation information and input information given by said user to said terminal;

analyzing a rate of change in hemoglobin concentration from said blood flow rate;

acquiring audio or video information of said user of said information processing apparatus so as to obtain attention information of said user through at least one of a microphone and a camera connected to said terminal;

judging whether or not a degree of concentration of said user to said information of contents is higher than a predetermined degree by using said analyzed rate of change in hemoglobin concentration at a corresponding time and said attention information;

displaying, when said degree of concentration of said user to said information of contents is higher than said predetermined degree, said degree of concentration of the user and said attention information of the user with corresponding time of said information of contents; and

displaying, when said degree of concentration of said user to said information of contents is not higher than said predetermined degree, information that the user is not in concentration time.

4-6. (canceled).

7. A learning condition judging program according to Claim 3, further operable on the computer to perform the step of:

giving notice to said user of said terminal in accordance with a result of

said step of judging said degree of concentration.

8. (canceled).

9. A learning condition judging program according to Claim 3, further operable on the computer to perform a step of judging whether said input information is a correct answer to an exercise included in said learning contents or not is further provided; and

wherein said step of judging a degree of concentration also uses a result of the step of judging whether said input information is a correct answer.

10. A learning condition judging program according to Claim 3, further operable on the computer to perform the step of:

providing an answer judging means for judging whether said input information is a correct answer to an exercise included in said learning contents or not,

wherein said step of judging a degree of concentration also uses a result of said answer judging means.

11. A learning condition judging program according to Claim 9, further operable on the computer to perform the step of:

displaying, on the display, information of said degree of concentration and information of a rate of correct answers for each exercise included in said learning contents, said rate of correct answers being obtained from the result of the step of judging whether said input information is a correct answer.

12. A learning condition judging program according to Claim 10, further operable on the computer to perform the step of:

displaying, on a display, information of said degree of concentration and information of a rate of correct answers for each exercise included in said learning contents, said rate of correct answers being obtained from said result of said answer judging means.

13. A system comprising:

a near infrared measuring device;

a terminal connected to said near infrared measuring device for measuring a blood flow rate in a brain of a user of said terminal; and

a server connected to said terminal through a network,

wherein said server includes a recording means for recording contents information;

wherein said terminal includes:

means for starting a learning program, displaying learning contents within a predetermined window on said display means, and continuously acquiring measurement information from said near infrared measuring device;

a display for displaying said contents information received from said server;

input means for accepting input instructions and operation instructions for said displayed contents information, wherein the input instructions and operation instructions indicate progress of a user's learning of the contents information; and

means for acquiring audio or video information of said user so as to obtain user's attention information;

wherein said server further includes:

a storage for storing inputs from said input means, said measurement information from said near infrared measuring device, said acquired audio or video information as attention information of the user, and said displayed contents information at corresponding times in association with one another; and

means for analyzing a rate of change in hemoglobin concentration from said blood flow rate and judging, when an event occurs within the predetermined window, when a facial image of the user is recognized, or when said audio information includes predetermined audio information, whether or not a degree of concentration of the user to the contents information is higher than a predetermined degree, based on said measurement information from said near infrared measuring device and said attention information to determine that the user is in concentration time;

means for displaying to said display, when said degree of concentration of said user to said contents information is higher than said predetermined degree, said degree of concentration of the user and said attention information of the user with corresponding time of the contents; and

means for displaying to said display, when said degree of concentration of said user to said contents information is not higher than said predetermined degree, information that the user is not in concentration time.

14. A learning condition judging program according to Claim 1, wherein said video information of the user is acquired as facial information or head behavior information of the user, and said camera judges as to whether the user is present in front of the screen or not, the direction of the head of the user, and expression of the user.

15. A learning condition judging program according to Claim 1, wherein said audio information of the user is acquired as text information which is extracted from voice of the user through said microphone.

16. A learning condition judging program according to claim 1, further comprising a step of notifying the user of warning output through said display means when it is judged that the user is not in concentration time.

17. A system according to claim 13, further comprising means for notifying the user of warning output through said display means when it is judged that the user is not in concentration time.

IX. EVIDENCE APPENDIX

There is no evidence relied upon in this Appeal.

X. RELATED PROCEEDINGS APPENDIX

There are no related proceedings.